STRATEGIC PLANNING
FOR
POST-SECONDARY EDUCATION

Alberta
ADVANCED EDUCATION

STRATEGIC PLANNING FOR POST-SECONDARY EDUCATION

A PAPER FOR DISCUSSION

AT THE

ADVANCED EDUCATION STRATEGIC PLANNING WORKSHOP

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EXECUTIVE SUMMARY OF STRATEGIES

This paper has been prepared as a discussion document for a workshop involving board chairmen and presidents of post-secondary institutions and officials of the Department of Advanced Education.

Following a brief overview of Alberta's post-secondary system and its growth in recent years, the paper examines two of the major forces at work in our society which are influencing the development of post-secondary education. These forces are:

1) the increasingly central role of knowledge in all aspects of society; and

2) changing economic conditions and their impact on public finances.

Building on an analysis of these forces, the paper suggests a number of broad directions for the post-secondary system, and proposes some possible strategies for moving in these directions. These are as follows:

I. Increasing Occupational and Technical Training in Industry

1. If further shifts of technical education are to be made from educational institutions to the industrial sector, some shifts in responsibilities will also have to occur. Encouragement could be given to the establishment of <u>industry articulation groups</u> in key program areas which would have the responsiblity to:

a) identify and accredit industrial settings which have the capacity to provide quality educational opportunities;

b) facilitate the articulation and credentialling of industry-based training with institutional training.

These groups should be made up of relevant stakeholders such as industry and professional associations.

Where accreditation of industry-based training facilities is a common practice (e.g., medical health technologies), the role of industry accreditation groups should be examined and expanded if necessary. Funding for the operation of these groups should come from the participating stakeholders.

2. To facilitate this strategy, the Department of Advanced Education could initiate discussions with the Department of Manpower on the possibility of expanding eligibility for funding for on-the-job training initiatives. Consideration could be given to:

a) funding of structured educational activities in industry in addition to the current approach of providing salary reimbursement for employees undergoing on-the-job training;

b) provision of funding for a greater variety of occupations.

II. Improving Articulation with Secondary Education

An ongoing mechanism which promotes better articulation between all post-secondary sectors and the secondary education system could be developed. Such a mechanism should ensure broad representation of post-secondary faculties in curriculum and curriculum policy development.

III. Enhancing Access Through Distance Education

A comprehensive province-wide distance education service could be established which would:

a) coordinate a variety of communication carriers for all institutions by establishing a province-wide configuration of existing networks;

b) act as a central agency for providing specialized expertise for instructional design to be available for all post-secondary institutions;

c) coordinate the collaboration of content experts and instructional design experts perhaps through personnel secondments in order to develop courses and programs to be delivered at a distance.

Consideration should be given to expanding the mandate of an existing agency such as ACCESS or an institution such as Athabasca University with a considerable infrastructure already in place to act as the province-wide service so as to avoid the costs associated with establishing a new organizational structure.

IV. Developing Alternative Sources of Funding

1. New funding from the Department of Advanced Education for professional or occupational programs could be provided on a matching basis whereby a major percentage (perhaps 50% or more) of required program resources (e.g. instructional personnel, space) would come from industry and other groups within the community.

2. Endowment funding could be expanded to allow for the evaluation and matching of non-cash contributions to operating activities, such as donations of staff for instructional purposes.

V. Encouraging Reallocation of Existing Resources

1. Inter-institutional allocative planning groups designed to recommend resource and program allocation between institutions could be established. The Department of Advanced Education with its mandate for coordination could chair these groups and provide the required support services. These groups might be established on a regional basis to ensure they are not weighted in favour of larger centres, but are able to consider adequately the programming needs of smaller communities. The immediate tasks of such groups would be to:

   a) review program areas where duplication exists within a region;

   b) recommend potential strategies for reallocation including the establishment of provincial or regional mandates in certain programming areas.

2. Since recommendations for reallocation made by such planning groups might still encounter the necessity for some transitional or "seed" funding, a reallocation incentive fund could be

considered which would fund reallocation initiatives. Since the purpose of reallocation is to provide programs and services within existing funding levels or in fact at reduced levels, the incentive fund could have a one-time conditional grant component which would not be added to institutional base budgets and a "loan" component which would be re-payable to the Department of Advanced Education on the basis of the long-term savings realized from the reallocation.

3. To stimulate the work of the reallocation groups and to strengthen their mandate, new program approval by the Department of Advanced Education could be contingent upon submission of a reallocation plan and endorsement of the proposal by the reallocation groups.

VI. Enhancing Utilization of Human Resources

Consideration could be given to the establishment of a common database on time utilization of faculty and time management techniques designed to increase the efficiency of instructional personnel.

This could be done by establishing inter-institutional task groups within the various sectors (universities, colleges, technical institutes, vocational centres). The data base developed by the work of these task groups could be considered by an inter-sectoral group made up of representatives from the original task groups. Recommendations on the more effective use of human resources could then be developed by the inter-sectoral group for consideration by all institutions in the system.

In recognition of the importance of integrating these strategies into an overall planning framework, the paper concludes by discussing approaches to system-wide planning for post-secondary education. It suggests the need to examine and take steps to implement mechanisms or ongoing strategic planning for the post-secondary system, based on principles such as continuity, comprehensiveness, improved communication and coordination, in order to ensure that the system can anticipate and address future challenges.

I. INTRODUCTION

The Department of Advanced Education and the presidents and board chairmen of Alberta's post-secondary institutions have entered into a dialogue concerning the future of post-secondary education in the Province. This activity is based on a series of planning activities undertaken by institutions and the Department of Advanced Education, as well as by special planning groups such as the Steering Committee of University and College Presidents and the Advanced Education Provincial Planning Group. The important feature of these planning activities is that a common understanding is emerging about the major issues which must be addressed and, more importantly, that because of this understanding it is an opportune time to develop some viable strategies to address these issues.

The following three points seem clear:

1. It is a common observation that Canada, along with other industrialized countries, is undergoing a transformation to a knowledge-based society in which continuing development will to a large degree be determined by the society's ability to create and disseminate knowledge and apply it to productive processes in a very competitive world economic climate. This transformation has significant implications for whom we educate, how we educate

them, what we educate them to do, and the type of research we pursue. While obviously this change is evolutionary in nature, it will be necessary to develop an educational system which is responsive to a new socio-economic reality.

2. The response to new demands on the post-secondary system has traditionally been the infusion of new funds, primarily from the provincial government. In the future, there will be a greater need to accommodate changes in the system within current levels of provincial funding. Alberta is not immune to the limits on public expenditure that other jurisdictions and levels of government are facing.

3. Changes in society and in the financing of education are not selective but affect the entire post-secondary system. If post-secondary education is truly a system, the actions and reactions of its components are not independent. Consequently, planning for the future must encompass the entire system in a coordinated effort and the necessary commitment, support and structures must be in place to facilitate this endeavour.

These items of general agreement provide a starting point to develop specific strategies for future development of post-secondary education in the Province. This paper is intended to facilitate this process by:

1. reviewing recent developments in the post-secondary system to provide a context for consideration of current issues;

2. outlining some major issues in more detail, and describing some of the steps already taken to address them ; and

3. examining some possible strategies which could be considered for further exploration.

The basic theme of the paper is that the issues now facing post-secondary education require a different approach to planning than has been employed in the past. The increasing degree of interrelationship between the various components of the post-secondary system, and the common issues and problems facing them, require a system-wide approach to strategic planning. The need for such an approach becomes evident as the issues outlined in this paper are considered in depth.

Delimitation

One further point of clarification needs to be made at the outset. This paper deals with issues relating to the operation of the post-secondary system which can be addressed by the institutions in collaboration with government and with private sector involvement. A number of broader, and arguably more fundamental issues are not considered in detail because they represent social questions which will require

attention and resolution by society as a whole, through its political institutions. Questions concerning the desirable rate of participation in post-secondary education, the percentage of educational costs which should be borne by students through tuition fees, and the proportion of society's resources which can and should be devoted to research and development activity are among the issues which must be addressed at this broad, political level.

Consideration of the strategic issues outlined in this paper must involve some attention to such broad questions. At the same time, however, it must be recognized that consensus on these questions may be difficult and slow to emerge, and will undoubtedly change with time.

It is therefore not necessary or desirable to await such consensus before proceeding to plan for the future development of post-secondary education. By working collectively to address major issues and challenges facing the system at present, and by establishing mechanisms of strategic planning which can anticipate and address future challenges, post-secondary institutions and government can improve the capacity of the system to respond flexibly to changing conditions, whether economic, social, or political.

It is with this goal in mind that the Advanced Education Strategic Planning Workshop has been organized.

II. THE POST-SECONDARY SYSTEM

A. AN OVERVIEW

Over the eighty years of Alberta's history, an increasingly complex and comprehensive range of post-secondary institutions, programs, and services has developed in the Province. For most of this period, responsibility for the various components of post-secondary education was divided among a number of government departments and other agencies such as intermediary commissions. Since the early 1970's however, a more integrated system of post-secondary education has developed, with overall responsibility for this system being consolidated in the Department of Advanced Education.

At present, this system consists of the following major components:

- **Universities** are located in Edmonton, Calgary, Lethbridge and Athabasca. The Universities of Alberta and Calgary offer a broad range of professional and degree programs at the bachelor's, master's and doctoral levels. The University of Lethbridge offers programs leading to six undergraduate degrees, as well as a variety of professional transfer programs and a new Master's degree in Education. Athabasca University has a special mandate to provide university programs through distance education. In addition to its instructional mandate, the university sector is characterized by a strong emphasis on research, and on community service through continuing education programming.

- Ten **public colleges** are located throughout Alberta. The program emphasis of individual colleges varies in accordance with the needs of the communities and regions which they serve. College programs range from academic upgrading to university transfer, and include career and vocational programs in such areas as agriculture, business, health and social services, and fine and applied arts, as well as continuing education. Since 1980, the mandate of a number of regional colleges has been expanded to include apprenticeship trades and technology programs which were previously available only in technical institutes.

- Three **technical institutes**, located in Calgary, Edmonton, and Stony Plain, offer one and two year technical, business, and applied arts programs, as well as apprenticeship training and continuing education. Their main areas of specialization are technologies related to engineering and the natural sciences; business, commerce and service occupations; and industrial and commercial trades.

- **Vocational centres** offer academic upgrading and various skill training programs, with special emphasis on providing educational opportunities to unemployed and disadvantaged people in their regions. Alberta Vocational Centres are located in Calgary, Edmonton, Grouard and Lac La Biche, while a network of smaller Community Vocational Centres based in Slave Lake, provides services to small and often isolated communities in north-central Alberta.

- The **Banff Centre for Continuing Education** provides advanced programming in the arts, management, and environmental studies.

- The **Alberta College of Art**, formerly affiliated with the Southern Alberta Institute of Technology, offers four-year programs in fine arts, crafts, and visual communications.

- The **Alberta Petroleum Industry Training Centre** offers skill training, upgrading and safety programs related to the oilwell drilling industry.

- Four **private colleges** - Canadian Union, Concordia, Camrose Lutheran, and the King's College - operate in affiliation with the University of Alberta. These colleges offer the first two years of degree programs in various fields of study. Private colleges may also be accredited, through an Accreditation Board established in 1984, to offer full baccalaureate degree programs.

- Over one hundred **private vocational schools** operate in Alberta under provincial licence. Most of these schools specialize in training for a single occupational area, ranging from clerical training to beauty culture to computer applications.

- Five **community consortia** were established in the early 1980's,through which groups of institutions provide credit programs and services in regions not in close proximity to an institution.

- Eighty-five local **further education councils** coordinate the provision of non-credit programs in communities throughout the province.

This extensive array of educational services accounts for approximately 10% of all government expenditure, making the Department of Advanced Education the fourth largest in terms of budget size of any government department.

While these institutions and sectors obviously have distinctive roles and functions, in recent years these roles have become increasingly intermingled. For instance, university programming is now offered in seven public colleges and four private colleges, and the mechanism exists for private colleges to become degree-granting institutions in certain program areas. The distinction between the roles of colleges and technical institutes has also blurred somewhat with the decentralization of apprenticeship trades and technology programming to some regional colleges. Similarly, the roles of vocational centres and colleges have overlapped, both in the area of academic upgrading and in some career training areas.

The decrease in clear and distinct role differences between institutions and sectors, and the concommitant increase in transfer activity and other interrelationships among institutions, are indicative of the need to view post-secondary education as a system rather than a group of distinct sectors. Another indication of the need for a system orientation is the array of common issues and problems which face all post-secondary institutions in adapting to changing social and economic conditions, and which require collaboration and cooperative effort to resolve. In short, post-secondary education in Alberta has become a

system, and planning for its future must be approached from this perspective. However, it is first necessary to understand the forces which have shaped the system in recent years.

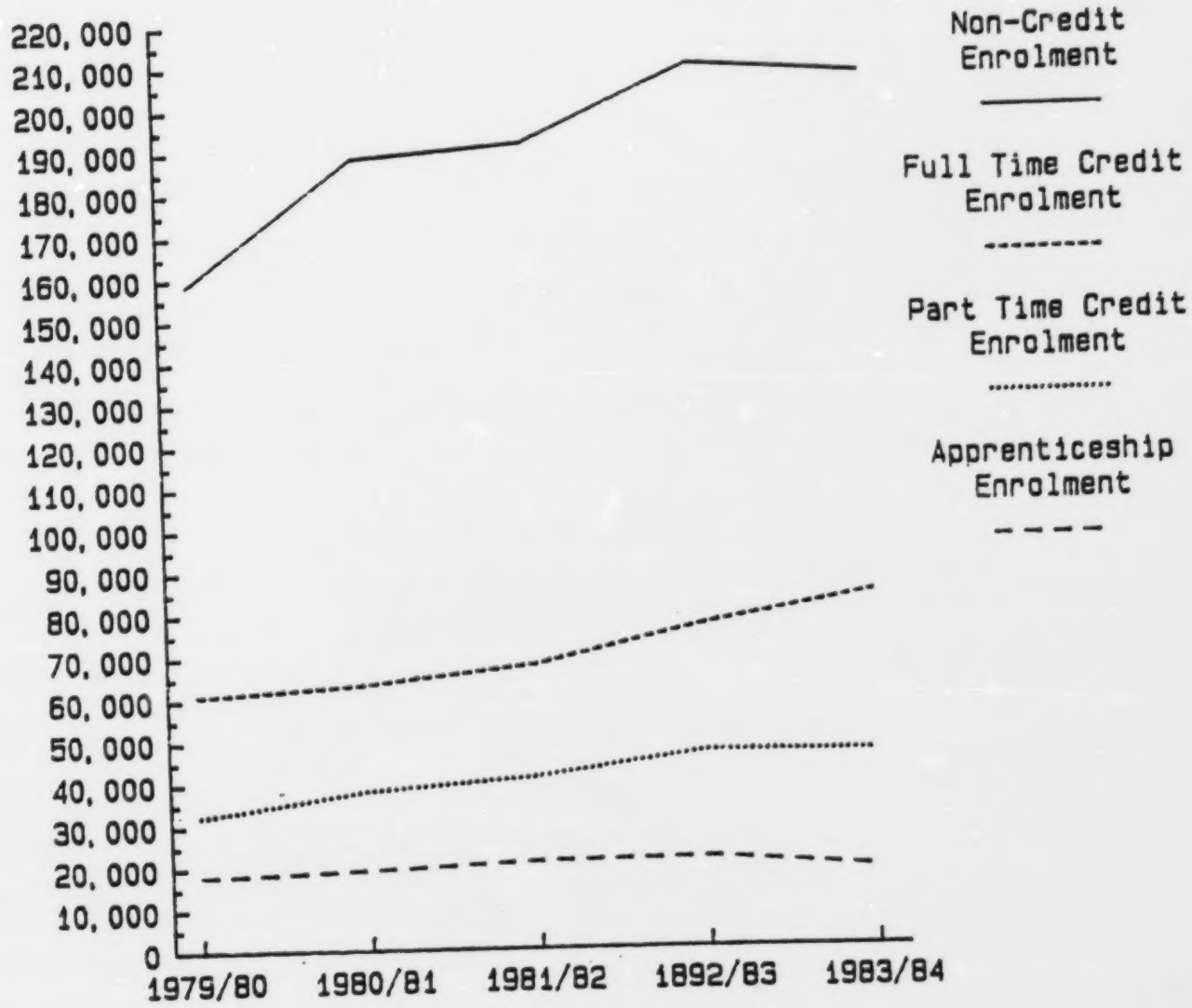
B. A PERIOD OF GROWTH

The development of the post-secondary system has been characterized by tremendous growth in enrolment, programs, facilities, and resources. The research activities of the system, centered in the universities, have also increased dramatically. Despite some plateaus and valleys, the long-term trend has clearly been toward higher enrolment and a greater variety of programs and services, provided by an increasingly diverse system, with better facilities, in more regions of the province.

Enrolment Growth

The period from 1979/80 to 1983/84 represents one of the more rapid growth phases which the system has experienced. Following an enrolment "plateau" in some sectors in the late 1970's, post-secondary enrolment increased substantially during this period, as illustrated in Figure 1. Between 1979/80 and 1983/84, full-time credit enrolment increased by nearly 40%, from 60,000 to nearly 85,000 students. During the same period, part-time credit enrolment increased by nearly 45%, while non-credit enrolment grew by over 30% to over 210,000 registrants in 1983/84. Apprenticeship enrolment also increased significantly, by nearly

Figure 1
Enrolment in Post-Secondary Education
1979/80 - 1983/84



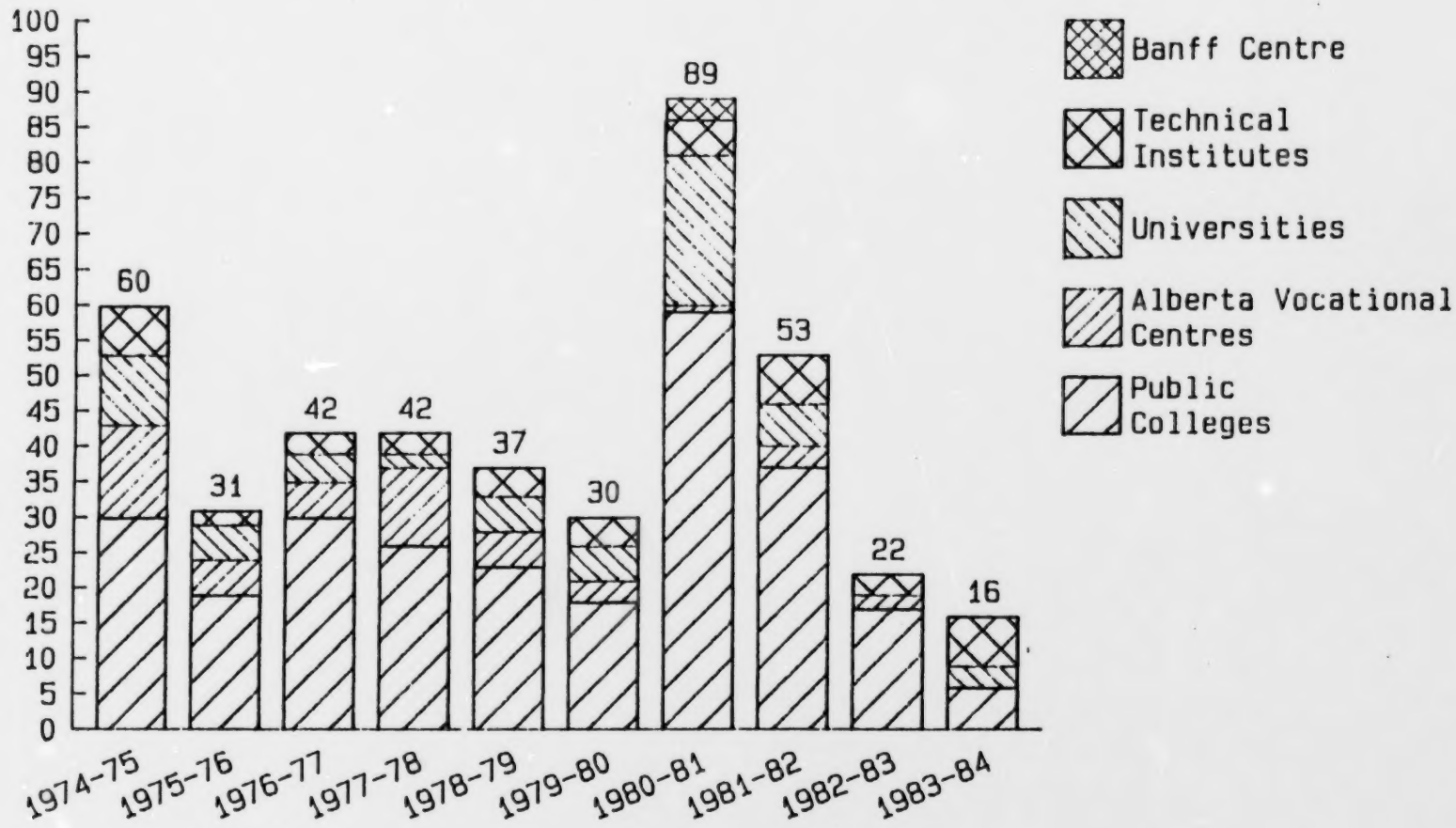
20%, between 1979/80 and 1982/83, but has since declined as a result of the changed economic circumstances in Alberta.

This overall increase in enrolment has affected different institutions and sectors in different ways. The rate of enrolment growth has been particularly high in the public colleges and vocational centres. While rates of growth in universities have not been as high, they have accommodated the largest increase in total number of students, with nearly 10,000 more full-time students enrolled in 1983/84 than five years previously. The capacity of the technical institutes to absorb large increases in enrolment has been more limited, but they have nevertheless experienced an increase of over 15% in full-time enrolment since 1979/80. In short, all institutions have been challenged to accommodate increased numbers of students and have experienced strains as a result of this enrolment surge.

New Programs

Increased enrolment has been accommodated primarily through expansion of existing programs, and supplementary funding for enrolment growth has been provided by the provincial government since 1982/83. The system's capacity has also been increased through the implementation of new programs. As Figure 2 illustrates, 210 new programs were approved by the Department of Advanced Education between 1979/80 and 1983/84. Since the implementation of the Program Coordination Policy in 1974, a total of 422 programs have been approved. This program development activity involved

Figure 2
New Programs Approved Under the Advanced Ed. Program Coordination Policy 1974/75 - 1983/84



all post-secondary institutions, and encompassed a wide range of program areas. A significant proportion of the programs approved since 1980 were related to major government initiatives in the areas of programming for the handicapped, nursing education, and decentralization of trades and technology programs. The vast majority of these programs were established with grants provided by Advanced Education to cover the full ongoing cost of program operation.

Capital Facilities

Development of capital facilities also proceeded rapidly over the past five years. Between 1979/80 and 1984/85, a total of over $400 million in capital grants for new construction was allocated to post-secondary institutions. In addition, over $300 million has been provided for renovations, upgrading and replacement of equipment, and other capital development. These funds supported a wide variety of capital projects, including the construction of entire new campuses for Athabasca University, Alberta Vocational Centre - Lac La Biche, and the Westerra Institute of Technology, and many new instructional, residential, and support facilities at other institutions. The decentralization of trades and technology programs to regional colleges in particular resulted in major construction projects at a number of public colleges.

Financial Resources

The rapid growth in enrolment, programs, and facilities which characterized the early 1980's was possible primarily because of increased

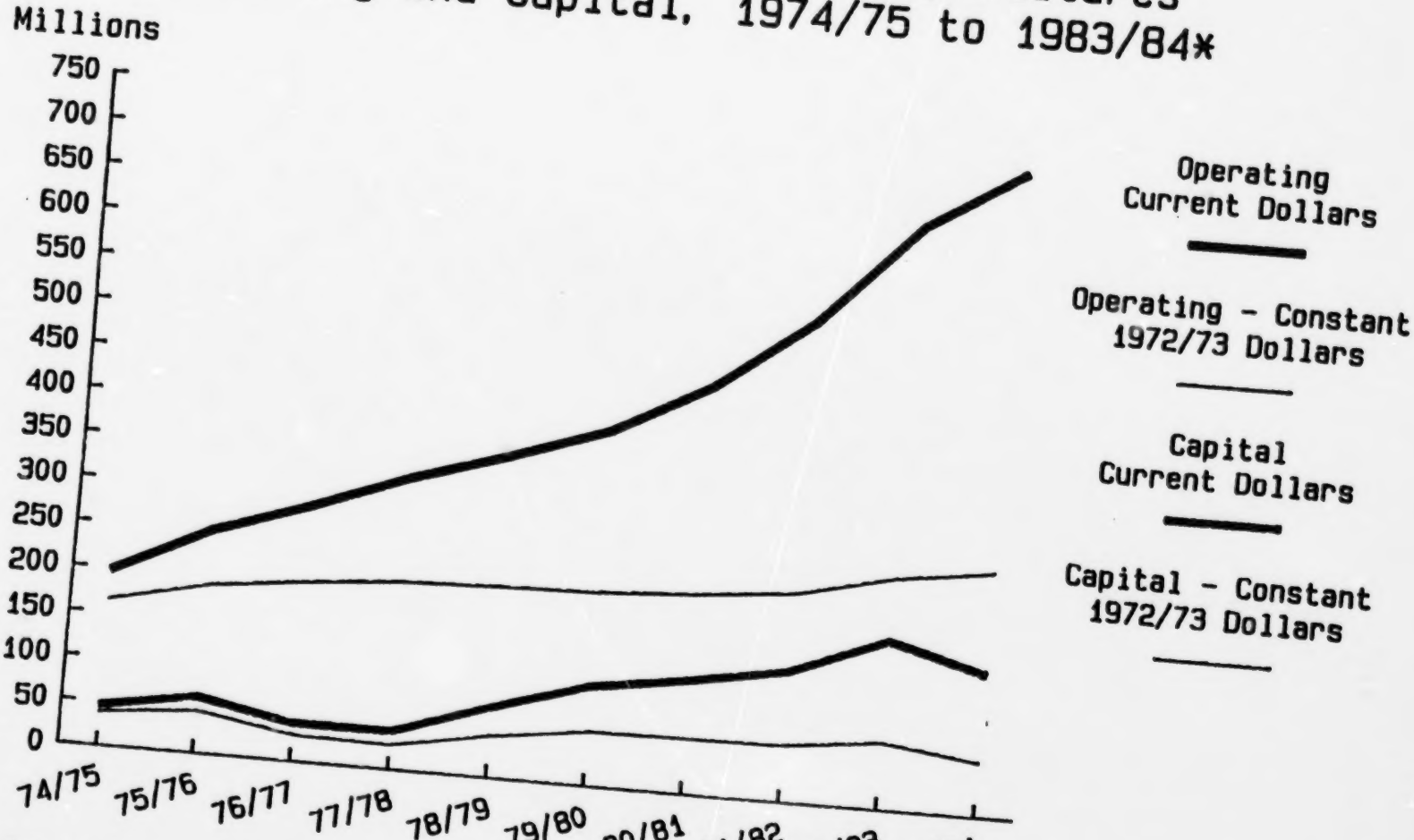
levels of provincial funding, as outlined in Figure 3. During the five years from 1979/80 to 1983/84, total operating grants to institutions increased by over 80%, to over $700 million. While much of this increase can be attributed to inflation, operating grants nevertheless increased by over 25% in real terms during this period. Capital grants, as expected, fluctuated with the progress of construction projects, but in general represented an increased level of support over the late 1970's.

Summary

In summary, Alberta's post-secondary system experienced a period of dramatic growth between 1979/80 and 1983/84, in enrolment, programs and services, facilities, and financial resources. Continuing the trend begun in the 1950's, the system has developed to meet the needs of Albertans in a comprehensive manner, with a range of programs and services and a level of quality at least equal to any other jurisdiction in Canada. This growth has been possible because of the overall growth of the provincial economy, which provided the provincial government with the resources to expand its support for education and other government programs.

At the same time, the pressures and consequences of this rapid growth have resulted in greater emphasis being placed on strategic planning throughout the post-secondary system, to ensure that the system continues to develop to meet the Province's needs under circumstances which may differ significantly from those of the recent past.

Figure 3
Alberta Advanced Education Expenditures
Operating and Capital, 1974/75 to 1983/84*



* - Includes amounts expended by Alberta Manpower and Alberta Public Works, Supply and Services on behalf of Advanced Education.

III. THE KNOWLEDGE SOCIETY AND POST-SECONDARY EDUCATION

A. THE MAJOR ISSUES

1. Growth in Knowledge

The increasingly central role of knowledge in modern society is reflected in such common terms as "the information society" and "the knowledge economy". Information is being generated at a phenomenal rate in part due to new technologies which have increased our ability to process it, store it and transmit it. The effect of this information explosion on our economy and society has tended to reduce the size of traditional occupations in the manufacturing and primary work force, create new occupational groups, and exacerbate structural unemployment. The 1984 Annual Review by the Economic Council of Canada identifies some of the economic effects of rapid technological change such as:

1) of the close to 2 million additional jobs created between 1973-1983, almost all were in service sector occupations;
2) two prominent areas of potential labour displacement are computer-aided manufacturing and informatics (the marriage of information processing and telecommunications technology); and
3) the widening unemployment disparities among occupational groups suggest that the problem of occupational mismatches may be intensifying.

The Economic Crossroads

A great deal of effort and resources have been invested in recent years by governments, private industry, educational institutions and others in examining the changes taking place in the economy, globally, nationally, and regionally, and considering appropriate strategies to promote economic development. Such discussions are often permeated with a spirit of urgency - the feeling that unless Alberta, and Canada, adopt the strategies necessary for the economy to develop along markedly different lines than in the past, we will lose our ability to compete effectively in the international marketplace, and suffer a corresponding decline in living standards and productivity.

The Alberta Government's "White Paper" on Industrial and Science Strategy represents one such analysis which, like many others, draws attention to the important role of the advanced education system in contributing to economic development. This role involves both the research activities of universities - the development of new knowledge and technological applications of knowledge, and their dissemination to the industrial and business sectors - and the teaching activities of all institutions in developing the skilled manpower which will be required in an information-based, high-technology economy.

The Future of Work

The preparation of skilled manpower for employment in the economy has been and will continue to be an important function of post-secondary

education. However, the capacity of industrial economies to create sufficient numbers of jobs for those who are seeking to work, has decreased dramatically in recent years, and the capital-intensive nature of many industries now experiencing growth suggests that this may not be a temporary phenomenon. The implications for education in a society in which relatively full employment is no longer the norm would be profound. The skills and knowledge which people may require in order to create meaningful forms of occupation for themselves, and to address the serious social issues which such a situation would create, could be quite different from those on which we currently expend the bulk of our effort and resources.

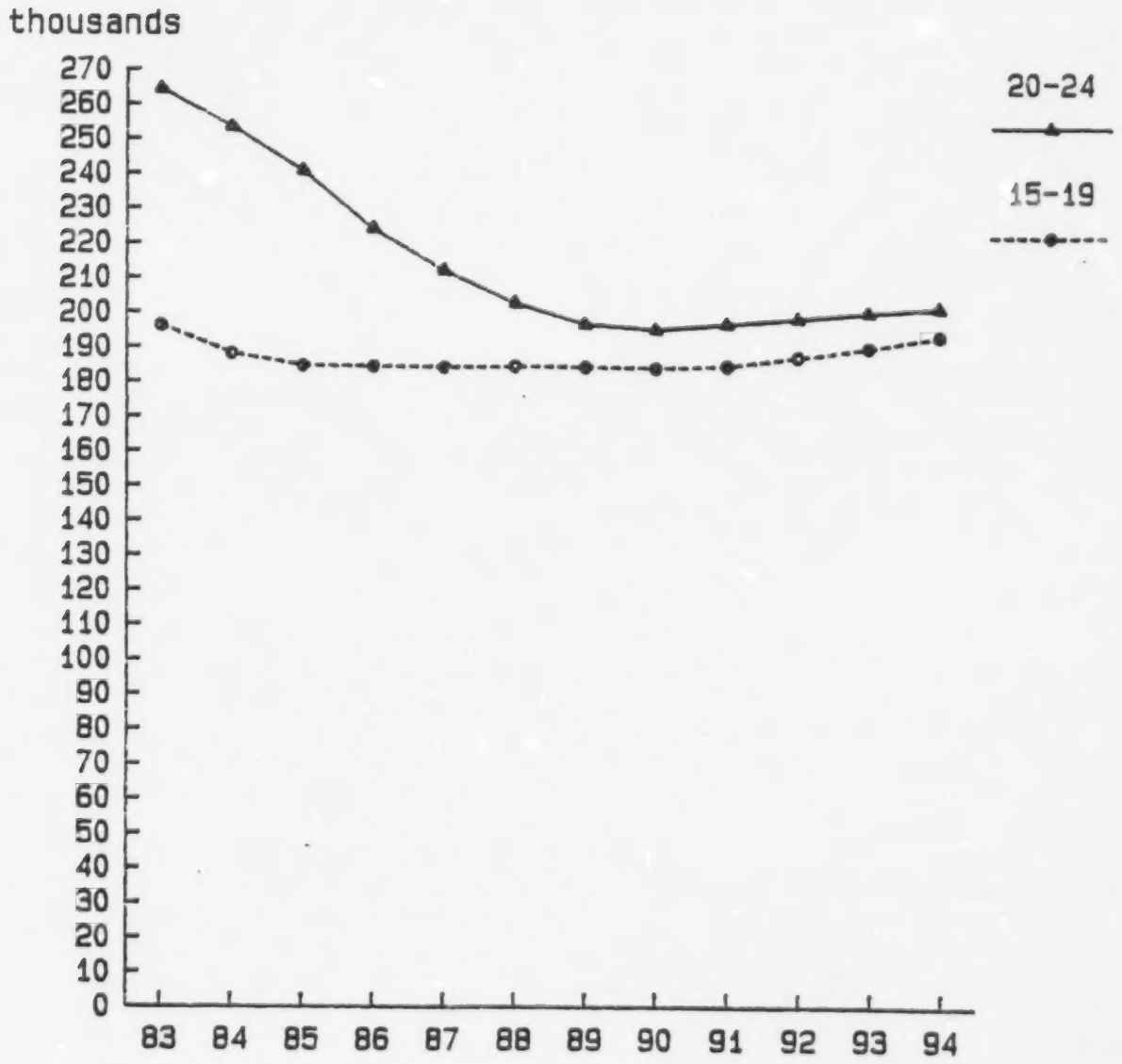
Along with other institutions in society, there is pressure upon educational institutions to adapt to technological and social change. The adjustments facing the education system, however, are compounded by the fact that post-secondary institutions are expected to prepare individuals to enter into occupations and society with the skills and knowledge required to cope and function effectively throughout their lives. Additionally, universities in particular participate in the creation of the new knowledge which is driving the fundamental changes in our society. Overall, the scope of change that the development of a "knowledge society" places on the post-secondary system presents a massive challenge for both short and long term planning.

2. Access to Knowledge

As the knowledge society evolves, it will become increasingly important for individuals to have access to the educational institutions which generate and disseminate information and knowledge. In discussions of accessibility, reference is often made to projections of a decline in post-secondary enrolments, particularly in universities. These projections are based to a large extent on demographic data including a decrease in the 18-24 year old age cohort which continues to provide the majority of post-secondary students (see Figure 4). While these projections may prove accurate in the short-term, there is little doubt that the long term trend is toward increased demand by individuals for access to post-secondary education. In the future the system can expect adults to be recycling in and out of formal programs as the phenomenon of lifelong learning becomes firmly established in our society.

While access to full-time, on-campus programs will continue to be important, the economic and social trends noted in the previous section are resulting in a growing demand for access to educational services on a more decentralized basis by adult, part-time learners. Accessibility in this context implies the need for government and institutions to give greater attention to the provision of educational opportunities in ways and at times and places which are most convenient to the learners. At the same time, attempts to broaden accessibility will have to be balanced with efforts to maintain the quality of the education provided.

Figure 4
ALBERTA POPULATION PROJECTIONS
AGES 15-24, 1983-94



3. The Balance in Knowledge

There is a general expectation by society that the post-secondary system can adjust its range of programs and services as society's needs for education and research change. Education has a broad mandate to prepare individuals for jobs, for the pursuit of knowledge, for a fulfilling life, and to contribute to the quality of society. Because this mandate is so broad, institutions must priorize their activities so that they may emphasize one aspect of their mandate over another, depending on the competing demands being placed upon them at any given point in time. A number of different aspects of this change of balance can be considered, including the following:

i) Balance Between General Education and Specialized Training

It is often argued that, because of the increasingly rapid obsolescence of specialized skills due to technological change, and the uncertain future of employment, greater emphasis should be placed in the educational system on general education and basic skills such as communication, reasoning and critical thought, human relations, and learning skills. With a firm grounding in these areas, people would be better prepared to acquire the specific skills needed for a particular occupation, to upgrade these skills or retrain for another career as required, and to create their own opportunities for productive and satisfying work.

ii) Balance Between the Public and Private Sector Roles in Training

If public post-secondary institutions shift their priorities toward general education, other means must be found to provide some of the specialized training which will be increasingly vital in an economy based on information and high technology. One option is to have business and industry assume a greater role in training for specialized skills which they require, and for which they have up-to-date expertise and facilities. This would allow public institutions to concentrate more on education for the broad range of skills and knowledge required by all students regardless of their career objectives.

iii) Balance Among Institutions

Another aspect of system balance is the concept of comprehensiveness. While institutions have certainly developed distinctive roles in the past, there has also been a trend toward greater comprehensiveness within individual institutions, in order for them to address the widest possible range of educational needs in their communities. The cost of such comprehensiveness, however, is high. In light of economic circumstances, and in view of the increasing potential of advanced communications technologies for delivery of educational services, reconsideration of this approach is required. Instead of duplicating programs in many different regions, institutions could develop more

specialized areas of program expertise. Access to this expertise could be made available throughout the Province and beyond through cooperative arrangements with other institutions and through techniques of distance delivery. In order to ensure that a comprehensive range of programs and services is provided by the system as a whole, a high degree of coordination and cooperation among institutions would be required.

4. Research and Technology Transfer

An outline of the relationship of the post-secondary system to the emerging "knowledge society" is not complete without reference to the research function of the system. University research plays an important role in the development of the economy and society in general. Both the preparation of researchers and the conduct of research are topics which require ongoing review to ensure relevance or, in other words, to ensure "state of the art" researchers and research. In addition, the transfer of knowledge derived from university-based research to industry must occur if society is to benefit from this research capacity. Certainly, the speed with which knowledge and technology are developing throughout the industrialized world make the goals of relevance and technology transfer even more difficult to achieve. However, they are crucial if Alberta and Canada are to be able to compete effectively and provide a high quality of life for their citizens.

B. THE SYSTEM'S RESPONSE

1. New and Expanded Programs

The rapid growth in the post-secondary system, particularly as reflected in new programs and program expansion, suggests that adjustments to changing economic and social circumstances have been primarily through the addition of financial resources to the system. While many internally funded changes in programming and curriculum have been made by post-secondary institutions and are too numerous to list here, the priority placed on expansion continues to be very high. In the 1985/86 institutional program plans submitted to the Department of Advanced Education, a total of 173 program initiatives were outlined and estimates of the cost of implementing all of these programs totalled nearly $50 million in operating and capital costs for the first year of operation. Given the limits on new provincial funding noted in the introduction and elaborated further in Section IV, it is obvious that strategies which are based primarily on continued budgetary expansion are unrealistic. Consequently, strategies to adjust to a changing social and economic context will have to involve significant re-allocation of existing resources.

2. Commitment to Accessibility

The continued commitment of Alberta's post-secondary system to the principle of accessibility is obvious. The major current approaches are noted below:

i) Institutions have made extraordinary efforts in recent years to accommodate as many students as possible, and have been assisted in this regard by the provision of special government funding for enrolment growth.

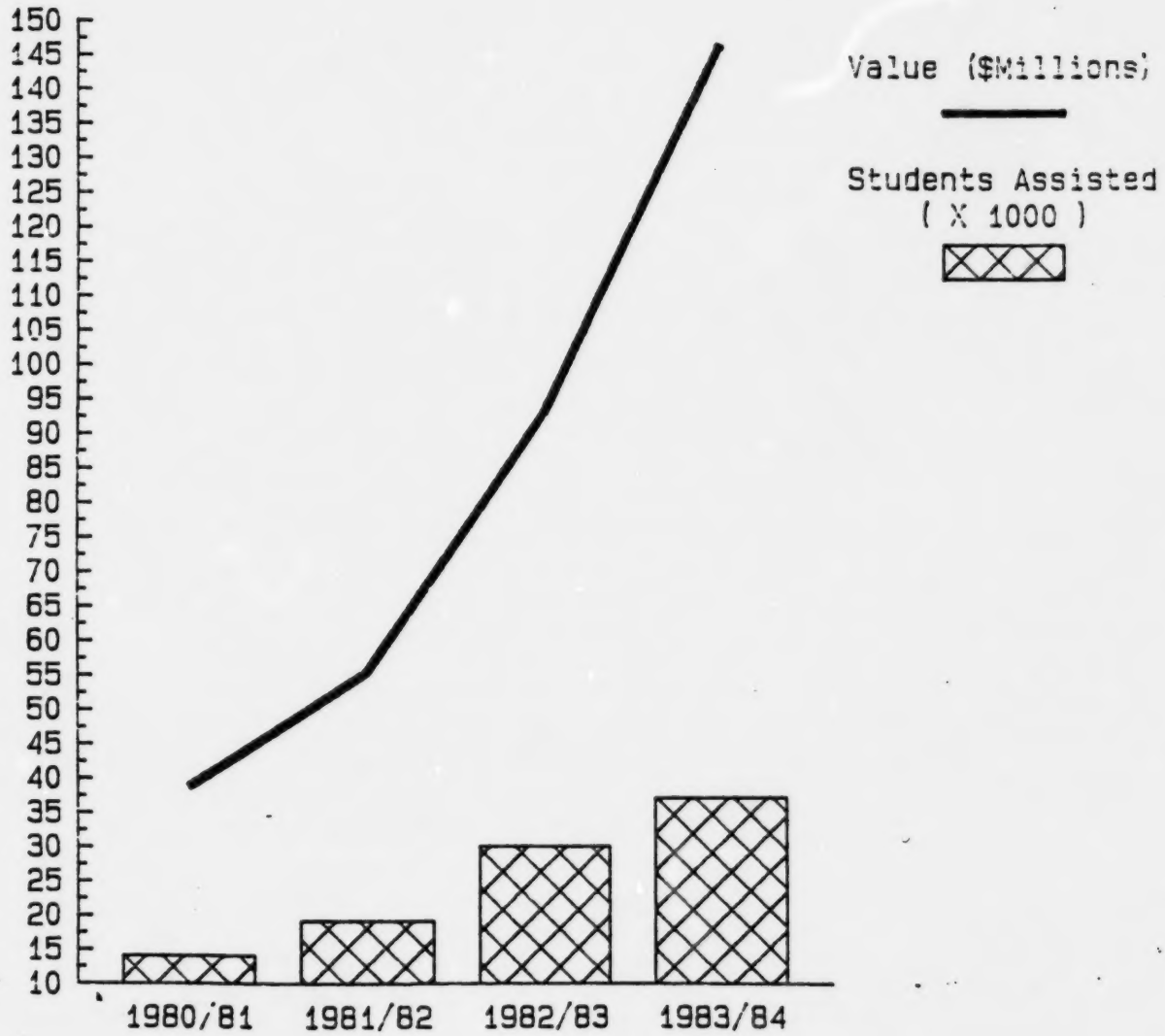
ii) Institutions have increased their efforts to adapt programs and services to the needs of "non-traditional" student groups, through outreach delivery, greater flexibility of timetabling, and through participation in the five community consortia which were established in the early 1980's to bring post-secondary services to regions of the province not served directly by an institution.

iii) Alberta is uniquely served by Canada's only university devoted exclusively to distance delivery of university education, Athabasca University. In the past year, Alberta's newest technical institute, Westerra Institute of Technology, has also begun to develop a mandate for delivery of technical education off-campus, in close collaboration with industry.

iv) In the non-credit area, Alberta's unique system of local further education councils has provided another vehicle to enhance the accessibility of post-secondary education throughout the Province.

v) The Provincial Government has demonstrated its commitment to accessibility in post-secondary education through its programs of direct support to students, which have increased dramatically in recent years. As shown in Figure 5, between 1979/80 and 1983/84 the total value of need-based assistance provided to post-secondary students by the Provincial Students Finance Board increased by over 275%, from over $38 million to over $146 million, while the number of students assisted increased by 160%, from over 14,000 to over 37,000. This represented an increase in the proportion of post-secondary students receiving assistance from 26% to 60%.

Figure 5
Financial Assistance to Post-Secondary Students
1980/81 - 1983/84



The percentage of enrolled students receiving assistance has risen to over 60% in 1984/85 from a level of 25% in 1980/81

vi) In addition to guaranteed loans, a variety of special grants are available which assist students who are geographically isolated from post-secondary services, provide support for special needs groups such as single parents and disabled persons, and give assistance to part-time students.

vii) Through the Alberta Heritage Scholarship Fund, a variety of awards are provided to encourage people in all walks of life to continue their education. In 1983/84, this program provided over 6000 awards, for a total value of over $9 million.

viii) Private vocational schools operating under provincial license provide another route for students to obtain access to post-secondary education. At present, 114 such schools are licensed by Advanced Education, and approximately 21,000 students were enrolled in 1984 in courses ranging from beauty culture to computer technology. The rapid expansion of high technology programs in private vocational schools has had a major impact on the Student Finance System described above.

3. **Research**

A detailed elaboration of research development and research activities in Alberta is found in the document Science and Technology

Development in Alberta. An analysis of some of the most recent data available provides an overview of the extent of the effort devoted to research. Approximately $523 million was devoted to research and development in Alberta in 1981/82. Of this it is estimated that industry performed approximately 54%, principally in relation to the resource industries; the universities performed approximately 25%, of which about two thirds was in the natural sciences; the federal and provincial governments each accounted for 8% of the total including 5% by the Alberta Research Council; and other agencies performed the remaining 3%.

A more coordinated approach to determining research priorities is developing. The establishment of an Office of Science and Technology in 1982, and the Research and Science Advisory Committee in 1983, together with the Special Cabinet Committee on Research and Science give the Government of Alberta the capability for monitoring, reviewing and setting policy in matters related to science and technology. A Memorandum of Understanding on Science and Technology under the joint Canada/Alberta Economic and Regional Development Agreement (1984) would permit coordination of Provincial and federally-funded initiatives. As well, the "one window" proposal outlined in the Government of Alberta White Paper on An Industrial and Science Strategy for Albertans calls for the creation of an agency to coordinate provincially-funded research and the establishment of an "Alberta Innovation Centre" to provide assistance to innovators.

Three strategies currently used to ensure that research is relevant to a changing economic and social context are noted below.

1. The establishment by government of special funding sources directed at high priority areas. The Alberta Heritage Foundation for Medical Research is an example.

2. The establishment of special "research chairs" or research centres in areas of high priority (e.g., exploration geophysics, petroleum engineering).

3. Direct funding by interested government departments in particular research projects (e.g., Centre for Frontier Engineering Research).

C. PROGRAMMATIC STRATEGIES FOR THE FUTURE

The following strategies are presented to encourage discussion of approaches in programming and delivery which could supplement those already being actively pursued by various stakeholders in the post-secondary system. The strategies do not encompass all of the issues discussed earlier. They are not spelled out in detail but are conceptual in nature, so that the discussion of them does not become focussed on exclusively operational issues.

Three strategic options are discussed in this section: the first two are concerned with "balance" issues and the last one is concerned with accessibility. A discussion of re-allocation as a strategy is relevant to all the issues discussed under the heading of "the knowledge society" but is examined under the next section of the paper dealing with financial issues.

1. Occupational and Technical Training in Industry

Program Development and Coordination

In reviewing their educational mandate, a number of post-secondary institutions have considered the possibility of shifting more responsibility for occupational/technical training to industry and focusing more attention on the basic sciences and general education in post-secondary institutions. The interest in such a shift varies among sectors of the post-secondary system since the primary emphasis of technical institutes and community colleges is in the area of occupational training, while universities place less of a priority on that role. Nonetheless, there is a general trend throughout the system to developing a greater involvement of industry in training through methods such as "cooperative programs", and placing greater emphasis in institutions on core academic training.

Shifts in this direction cannot be done rapidly. A major difficulty arises in establishing criteria to determine the technical education which should shift to the industrial sector as distinct from what is best done in a post-secondary institution. Technical and academic education are intertwined in such a way that there is no easily identified dividing line. It takes considerable effort on the part of both the industrial and academic community to plan a new program which encompasses considerable industry-based training or to restructure an existing program in this format.

To determine what can best be done in industry is not only difficult to establish, but once established requires coordination on an ongoing basis. This coordination is required not only to ensure that academic and practical training complement each other, but that the overall quality of the program is maintained. Since educational institutions see themselves as primarily responsible for the final outcome of the educational process, they put in place a variety of mechanisms to ensure quality and coordination of any programming that involves industrial training. Joint faculty appointments, curriculum committees, and student supervision are some examples of techniques which are used and will have to be expanded if more technical education is to move into the industrial sector. However, as long as post-secondary institutions have the major responsibility for coordination they will bear the bulk of the management and supervision costs . Since funding for any new initiatives is currently restricted, it

is difficult to expand joint industry/education activities unless some of the costs and responsibilities for coordination can be shifted to industry.

Incentives for Private Sector Involvement

While it may be desirable from the viewpoint of the educational sector to shift a greater degree of occupational training to the "private sector", there must be a concomitant desire on the part of the latter sector to accept it even though there are substantial benefits to industry for participating in training. If there is a shift of some real costs to the private sector, it may be difficult for industry to absorb these. Traditional contributions like work experience may also be limited if companies are reducing in size due to economic difficulties. This suggests that some incentives to encourage the private sector to accept a greater role in the direct provision of education may be needed in certain instances.

Financial incentives for industrial involvement in education have generally been directed at facilitating on-the-job training of individuals through such programs as the Alberta Vocational Training Program and the Alberta Training Program. Generally, these programs provide matching salary grants for the upgrading of employees in programs of a short-term nature. While other forms of financial incentive may be useful to encourage industry to become more involved in educational programming, particularly advanced levels of training, they can also have a negative

impact by encouraging employers who currently absorb the costs of participation to seek financial support. Therefore, any new approaches to the provision of direct incentives to industry need to include strict criteria so that financial aid is aimed at increasing participation in situations where there are: a) few direct benefits to the organizations participating; and b) identifiable additional costs which cannot be absorbed in the day to day operations of the organization.

Strategies

1. If further shifts of technical education are to be made from educational institutions to the industrial sector, some shifts in responsibilities will also have to occur. Encouragement could be given to the establishment of industry articulation groups in key program areas which would have the responsibility to:

   a) identify and accredit industrial settings which have the capacity to provide quality educational opportunities;

   b) facilitate the articulation and credentialling of industry-based training with institutional training.

   These groups should be made up of relevant stakeholders such as industry and professional associations.

   Where accreditation of industry-based training facilities is a common practice (e.g., medical health technologies), the role of industry accreditation groups should be examined and expanded if necessary. Funding for the operation of these groups should come from the participating stakeholders.

2. To facilitate this strategy, the Department of Advanced Education could initiate discussions with the Department of Manpower on the possibility of expanding eligibility for funding for on-the-job training initiatives. Consideration could be given to:

   a) funding of structured educational activities in industry in addition to the current approach of providing salary reimbursement for employees undergoing on-the-job training;

   b) provision of funding for a greater variety of occupations.

2. Articulation with Secondary Education

When considering a shift in emphasis in the educational mandate of post-secondary institutions, it is recognized that students entering the system bring with them a set of knowledge and skills which pre-determine or at least influence the extent of changes which can be made. The degree of articulation which occurs between secondary and post-secondary education can facilitate or complicate the work of the post-secondary system. If the post-secondary system is unaware of the skills and knowledge secondary students bring with them, or is dissatisfied with the quality and content of their educational preparation, considerable time and effort may be spent duplicating curriculum which might be best offered at the secondary level.

The specification of entrance requirements to post-secondary programs and attempts to establish more uniform graduation criteria at the secondary level, are two approaches to achieving articulation between the systems. Obviously, any shift in the content of secondary education will have implications for the post-secondary system and vice versa. This relationship demands a close degree of interaction if transfer between the two systems is to be efficient and if unnecessary offerings in the curriculum are to be minimized.

Currently, interaction between post-secondary institutions and the secondary education system is minimal. The curriculum development groups

operated under the umbrella of the Department of Education normally have a representative from the university sector on them, but this individual does not represent in general the post-secondary institution or the faculty which is most closely related to the subject matter under consideration by the curriculum group. The Curriculum Policy Committee, which was a general advisory committee to the Minister of Education included a representative from the university sector, but this committee has been dissolved. In addition, a special secondary education review project undertaken by the Department of Education received only limited input from post-secondary institutions. This review also concluded that there should be improved articulation between the secondary program in Alberta and programs at the post-secondary level.

Strategy

An ongoing mechanism which promotes better articulation between all post-secondary sectors and the secondary education system could be developed. Such a mechanism should ensure broad representation of post-secondary faculties in curriculum and curriculum policy development.

3. Enhancing Access through Distance Education

The expansion of educational opportunities in smaller centres and for part-time and adult students has proceeded rapidly in Alberta. It is an area which continues to receive priority by all institutions and one which has demonstrated the innovativeness and commitment of Alberta's educators.

Economies of Scale

In spite of the rapid and ongoing development in the field of distance education, there are some factors which can inhibit its growth. Of particular importance is the economy of scale that institutions can achieve through centralization and which may be lost when the programming is decentralized. For example, it may be more costly to offer a program in ten small communities throughout the province rather than one large program in one institution. When program delivery is centralized, a student is expected to bear the costs of moving to the instructor, while in the decentralized approach the institution must bear the cost of moving the instruction to the student. While a variety of instructional methods have been developed to minimize the costs associated with delivering programs away from a central location - such as computer managed learning, teleconferencing, and student self-study programs - there are potential new costs for which funds are not available, thus discouraging such decentralization.

Instructor-Student Interaction

A second problem which can arise in distance education is a decrease in the quality of instruction and supervision provided to the student. There is often less direct interaction between instructors and students which can create some very real difficulties in ensuring that effective instruction takes place. The traditional institutional based, full-time program is offered in an environment with fewer variables to control in the transmission of information than in a distance delivered program. While careful development and evaluation can overcome these problems,

these activities involve additional costs which institutions may not be able to bear. Although funding from the Department of Advanced Education through consortia programming and the Innovative Projects Fund, as well as internal reallocation by institutions, has allowed considerable expansion in programming in smaller communities, there continues to be an unmet demand.

A Common Network

The problem associated with the loss of economy of scale can be addressed in part by developing a distance education network which would serve as a common carrier for all institutions. The foundations for such a provincial educational communications network already exist, particularly in the case of audio communications, (i.e., the FX Teleconference Network used by community consortia and the RITE Teleconference Network currently being pilot tested). In addition, the ACCESS Network (satellite video service) is available as are a variety of data communication systems. The coordination of these existing carriers into a province-wide network is a feasible way to avoid costly duplication of new initiatives in distributing programming throughout the Province.

In a similar way that a common carrier would facilitate the cost-effective development of distance delivery, a pooling of development expertise would address some of the problems associated with the need for development and evaluation. This could reduce duplication of effort and would allow the sharing of personnel which may be too costly for one

institution to acquire individually. This sharing is particularly vital in the area of instructional system design since expertise is scarce. As well, content experts currently distributed throughout the system would benefit greatly if they could pool their efforts in collaboration with a central source of instructional design expertise. This pooling would involve existing resources and would not necessarily represent any new costs to the post-secondary system but would require a more system-wide approach to planning and development.

Strategy

A comprehensive province-wide distance education service could be established which would:

a) coordinate a variety of communications carriers for all institutions by establishing a province-wide configuration of existing networks;

b) act as a central agency for providing specialized expertise for instructional design to be available for all post-secondary institutions;

c) coordinate the collaboration of content experts and instructional design experts perhaps through personnel secondments in order to develop courses and programs to be delivered at a distance.

Consideration should be given to expanding the mandate of an existing agency such as ACCESS or an institution such as Athabasca University with a considerable infrastructure already in place to act as the province-wide service so as to avoid the costs associated with establishing a new organizational structure.

IV. FINANCING OF POST-SECONDARY EDUCATION

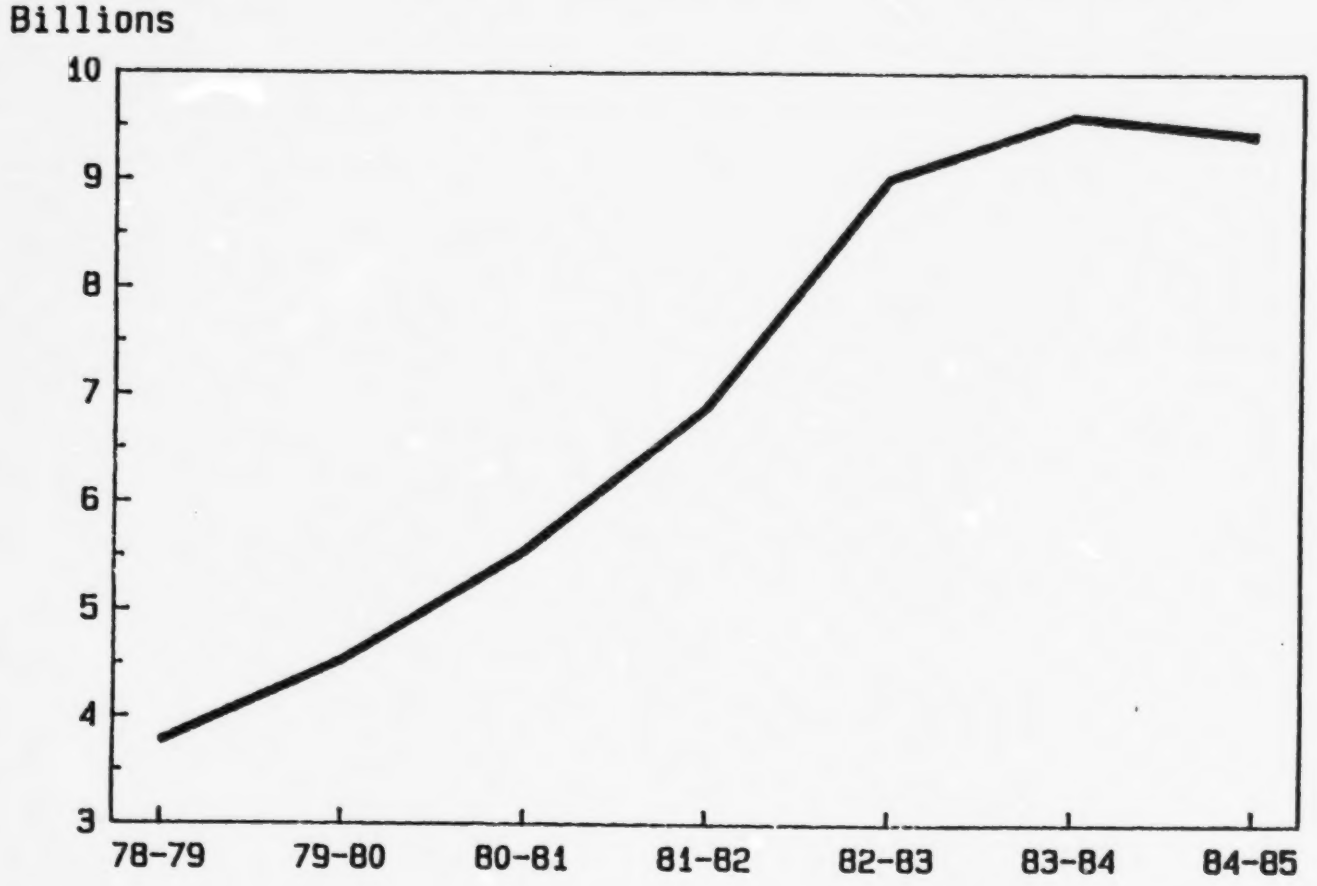
A. THE CURRENT MODEL

Provincial government grants are the major source of revenue for post-secondary institutions. Federal funding provided through fiscal transfer to the province is incorporated into overall provincial grants. Tuition and other income account for relatively minor proportions of institutional revenue. Provincial funding has also provided the main mechanism for development of new programs and services, and institutions have received incremental grants to cover the full cost of implementation of many new initiatives. While some new programs have been established through reallocation of institutional resources, this has tended to be the exception rather than the rule.

Limits on Public Funding

Changed economic circumstances suggest that this model has severe limitations as a mechanism for system development. Simply put, institutions will not be able to rely on significant increases in provincial funding. As shown in Figure 6, the overall level of government expenditure has stabilized in recent years, and even declined slightly. It is of course difficult or impossible to predict whether this situation will continue in the future.

Figure 6
Government of Alberta Total Operating and Capital Expenditures ($Billions)



Source: ESTIMATES OF EXPENDITURES, Gov't of Alta
Note: 1984-85 is an estimate; 1983-84 is a comparable estimate.

However, considering the province's heavy reliance on revenue from non-renewable resources (See Figure 7) in a period when world energy prices are experiencing strong downward pressure, it is not realistic for the post-secondary system to base plans on an assumption of a return to the boom years of the last decade, and large increases in provincial expenditure. It is also unlikely that the share of the provincial budget devoted to post-secondary education will increase. As illustrated in Figure 8, the 1984/85 spending estimate for the education sector was 22.6 percent of provincial expenditure. When other priorities such as health care, social services and transportation are considered, the prospect of an increased share for education appears small.

B. THE CHANGING CONTEXT

The major implication of the situation outlined above is that the post-secondary system will have to shift from a development strategy based on additional public funding for most new initiatives to one which places greater reliance on reallocation and more effective use of resources already available to the system, and on increasing non-governmental sources of support. The financial resources already available to the system are considerable (nearly one billion dollars in combined operating and capital grants in 1983/84), and Alberta's level of support for post-secondary education continues to be among the highest in Canada. Effective use of these resources, supplemented with increased private and corporate support, can provide the means for continued development of the post-secondary system.

Figure 7
PERCENTAGE DISTRIBUTION OF BUDGETARY REVENUE BY MAJOR SOURCE, 1984/85 ESTIMATE

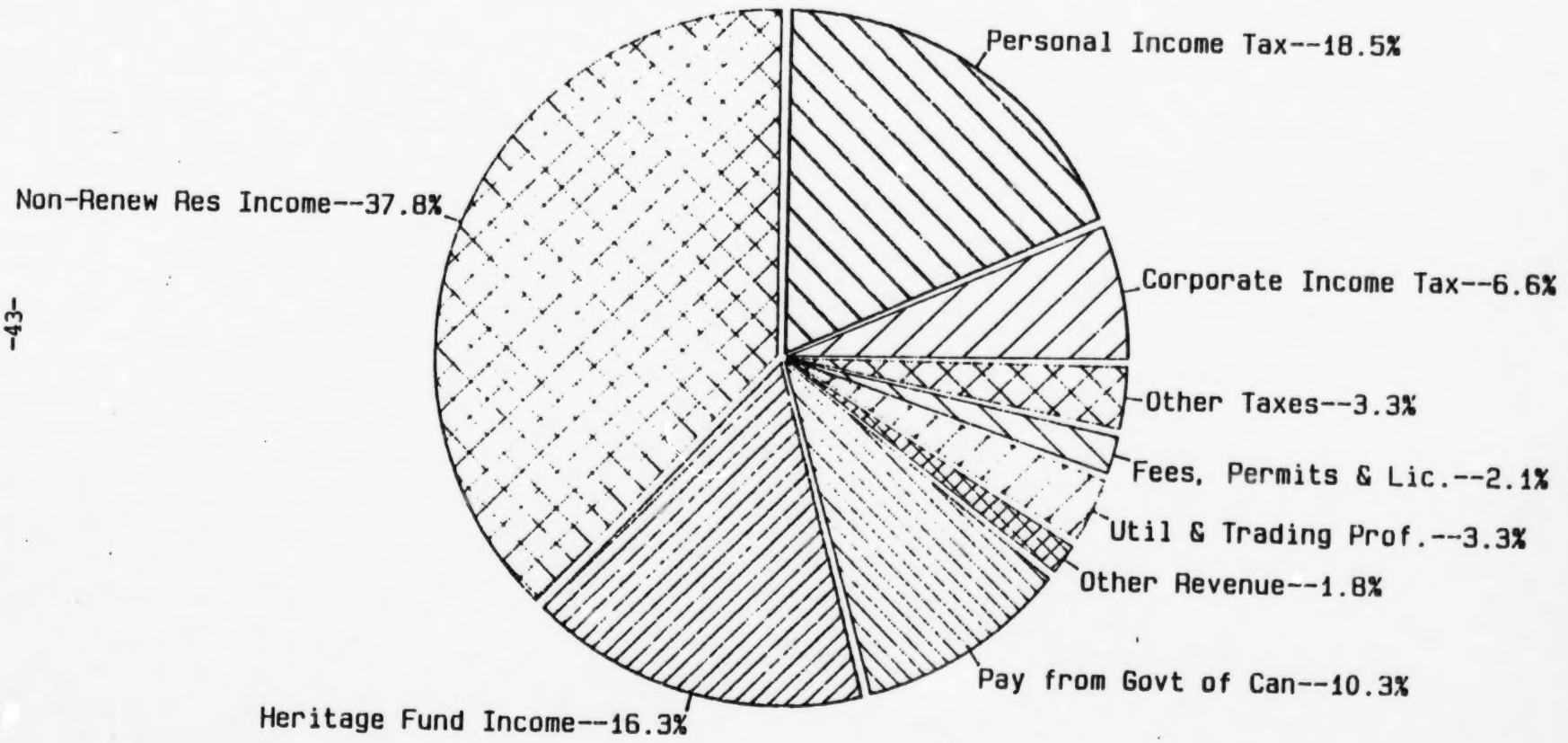
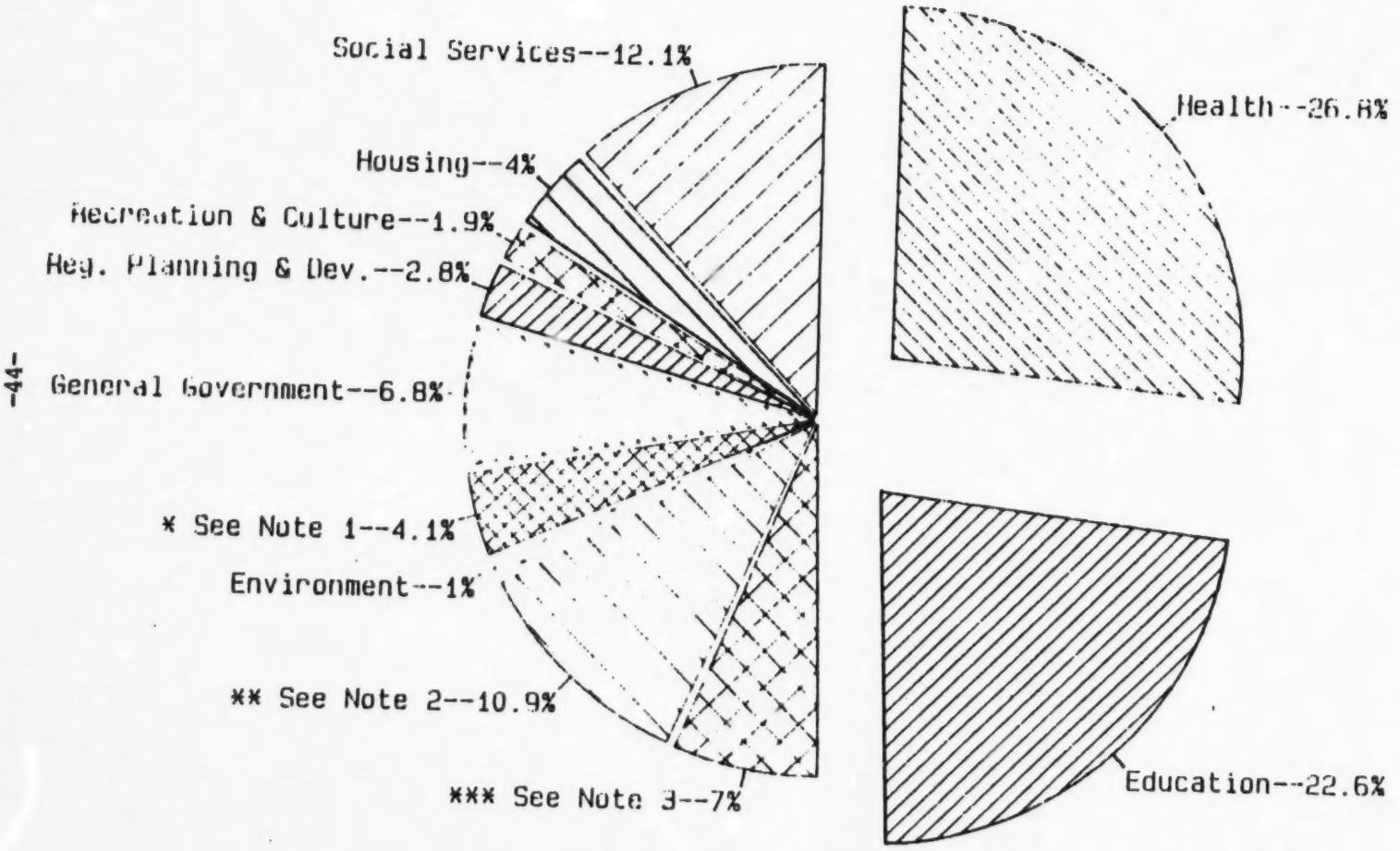


Figure 8
Spending Estimates for 1984/85



* Protection of Persons and Property
** Transportation and Communication
*** Resource Conservation & Industrial Dev.

A number of steps have already been taken by institutions and government in recognition of the need for a revised approach to educational financing. Many institutions have increased their efforts to obtain private sector support, and there are numerous examples of success in this regard. These activities have been facilitated by the matching grants provided by the 1980's Advanced Education Endowment Fund, which was established in 1980 to encourage private and corporate donations to post-secondary institutions.

Institutions have also taken steps to ensure that their resources are utilized more efficiently, and to reallocate resources to high priority activities. The number of new programs which have been implemented through reallocation and other sources of funding has increased. Institutions have also reallocated funds to expand programs and services in particularly high demand, such as computing science. Despite these efforts, however, it is not unfair to say that the primary development strategy continues to be based on an assumption of incremental funding for new initiatives.

C. FINANCIAL STRATEGIES FOR THE FUTURE

1. Alternative Sources of Funding

Post-secondary institutions have clearly recognized the need to broaden their bases of support by developing alternative sources of revenue. There are, however, many factors which restrict success in this

strategy. The most obvious difficulty lies in the fact that the private sector, both corporate and individual, is subject to similar economic forces as those affecting governments. In other words, there are limited funds anywhere in society which can be easily redirected to support educational enterprises. Another concern is that attempts to expand some sources of revenue may have negative consequences that outweigh the benefits received. Significant increases in student contributions through tuition, for instance, may result in unacceptable restrictions to accessibility on the basis of income. Similarly, increased corporate support for education may ultimately be passed on to consumers . In short, a number of barriers exist which may limit institutional ability to develop alternative sources of funding.

Emphasis on Non-Monetary Contributions

Considering the limitations on available funds in other sectors of the economy, strategies which encourage contributions of goods and services such as equipment or space provide a viable alternative. While cash contributions such as endowments and scholarship support will continue to be important, other innovative approaches will have to be considered to a greater extent than in the past. There are many examples of ways that individuals, industry, and communities can participate in the educational process without charging the educational system or making cash outlays. These include:

1. provision of student work placements
2. assignment of industry staff as full- or part-time instructors
3. joint use arrangements for business and community facilities.

Requires Mutual Benefit

In order to succeed such arrangements must be of benefit to all parties. There are a number of benefits to organizations which participate in the educational process through the provision of their expertise and facilities. These include such things as return-service from students, an opportunity to influence the training of potential future employees, and enhanced skills of staff who participate. On the other hand, while post-secondary institutions will expend some time and resources to ensure quality, as well as concerning themselves with such things as labour relations issues surrounding the employment status of students and non-contractual instructional staff, they will obtain significant benefits from these new sources of support. The availability of highly qualified manpower and resources in industry and the community which are able and prepared to participate in the educational process is a vast resource which has been only partially explored.

Strategies

As noted earlier, a major stimulus to the involvement of industry and the community in providing funding to the post-secondary system has been the Advanced Education Endowment Fund. Clearly, when called upon, the "private sector" has shown its willingness to assume a greater role in

supporting higher education. These successes suggest that an expanded approach to matching grants which encourages non-cash contributions should be explored. Two possible alternatives in this regard are:

1. New funding from the Department of Advanced Education for professional or occupational programs could be provided on a matching basis whereby a major percentage (perhaps 50% or more)of required program resources (e.g. instructional personnel, space) would come from industry and other groups within the community.

2. Endowment funding could be expanded to allow for the evaluation and matching of non-cash contributions to operating activities, such as donations of staff for instructional purposes.

2. Reallocation of Existing Resources

The reallocation of existing resources is an issue which receives considerable attention within post-secondary institutions when they are establishing priorities for programming initiatives, or seeking new funds, or establishing budgets for existing programs and services. Unfortunately, reallocation is a difficult strategy to pursue for a number of reasons.

Few Programs are "Unneeded"

One barrier to reallocation is the argument that there is little redundancy within post-secondary institutions. Institutions have developed social programs and services in response to a wide range of social demands, and find it difficult to identify superfluous services. When attempting to establish priorities that may reduce programming in a

particular area, institutions find that while it may be a low priority for some stakeholder groups, there are a number of other stakeholders which consider the program area a high priority. Consequently, there are few possibilities for reallocation which do not result in reductions to programs which are highly valued by some clients.

The Need for "Critical Mass"

Another complicating factor is that in areas where reductions in size may seem feasible, the "critical mass" required to maintain a core of programming is such that only extremely small savings can be achieved. For example, if enrolment in a program declines, it may not be possible to reduce the number of instructors because some have expertise in a specialized area which may still be required even for the smaller number of students. While attempts can be made to reassign and re-train such essential faculty so that they can be used in other areas, this may cost more than the savings it achieves. Faculty contracts can also complicate the reallocation of such partially redundant faculty. As well, strategies such as retraining and early retirement represent new costs which institutions may not be able to afford. While cost savings would be made in the long term, the initial readjustments may not be possible due to a shortage of "seed" funding.

Reallocation on a System Basis

Such constraints restrict the possibilities for reallocation, and make it a difficult process for institutions to undertake. However, the limits to flexibility which exist within any one institution should not be so evident when the post-secondary system as a whole is taken into consideration since the pool of resources and programs is larger. While the process of resource reallocation will be complicated, more flexibility may be possible due to economies of scale. This implies (a) the movement of resources between institutions and (b) some centralization of resources. In the first instance, there is no well established vehicle to allow for inter-institutional planning for the reallocation of resources so it is not surprising that this has not been done to a great extent. In the latter instance, centralization may contradict the demands for better access on a geographical basis and run contrary to the aspirations of institutions to expand the comprehensiveness of their program offerings.

Strategies

To facilitate inter-institutional reallocation, a number of initiatives could be considered.

1. Inter-institutional allocative planning groups designed to recommend resource and program allocation between institutions could be established. The Department of Advanced Education with its mandate for coordination could chair these groups and provide the required support services. These groups might be established on a regional basis to ensure they are not weighted in favour of larger centres, but are able to consider adequately the programming needs of smaller communities. The immediate tasks of such groups would be to:

a) review program areas where duplication exists within a region;

b) recommend potential strategies for reallocation including the establishment of provincial or regional mandates in certain programming areas.

2. Since recommendations for reallocation made by such planning groups might still encounter the necessity for some transitional or "seed" funding, a reallocation incentive fund could be considered which would fund reallocation initiatives. Since the purpose of reallocation is to provide programs and services within existing funding levels or in fact at reduced levels, the incentive fund could have a one-time conditional grant component which would not be added to institutional base budgets and a "loan" component which would be re-payable to the Department of Advanced Education on the basis of the long-term savings realized from the reallocation.

3. To stimulate the work of the reallocation groups and to strengthen their mandate, new program approval by the Department of Advanced Education could be contingent upon submission of a reallocation plan and endorsement of the proposal by the reallocation groups.

3. Utilization of Human Resources

Closely related to the reallocation of resources discussed above, is the question of adjusting faculty workloads to increase the efficiency of the human resources already employed in the system. The importance of adjusting workloads to provide the same or a greater level of service is emphasized by the fact that the largest portion of operating budgets in the post-secondary system is devoted to salaries. Because of this, even small adjustments can have considerable impact when aggregated across the entire system.

Barriers to Change in Workload

There is a popular belief that because of the small number of student contact hours per week that are expected of faculty and the small student to faculty ratio in some courses, it should be easy to increase faculty workloads to meet demands for new or expanded programs and enrolment. It must be recognized, however, that actual instruction is only one part of the duties of faculty, who not only have responsibility for administration, student supervision or (in the case of universities) research, but must spend considerable time maintaining expertise in their disciplines. Faculty contracts arrived at over years of collective bargaining reflect this reality.

If faculty workloads were to be increased, it is argued, some serious negative consequences might also result. Among these are a possible reduction in instructional quality and, related to this, a reduction in the non-instructional activities of faculty. If less time is spent on small group and individual instruction and supervision of students, more reliance must be placed on using other manpower such as graduate teaching assistants, or more individualized study. While these are useful strategies, they cannot totally replace the personal advice and direction of highly qualified faculty. In addition, some of the non-instructional activities are critical to quality education and a reduction in them will have a direct negative effect. For example, a reduction in time devoted to meetings with advisory committees to develop and revise curriculum

could result in programming which is not current and relevant to developments in the discipline.

Opportunities for Workload Change

While there is some validity to such arguments , there are also signs that change in workloads is possible. One indication is the variation which exists between instructional workloads in institutions with similar mandates. Obviously, the results of collective bargaining in individual institutions will cause such differences because the mix of benefits and workloads will vary. However, it may be that some institutions have in fact developed strategies which allow for higher workloads. As well, there are examples of faculty workloads being increased either through additional hours or increased class sizes which suggest some flexibility is possible.

It is difficult to suggest ways to alter faculty workloads without a greater understanding of the time management techniques employed by some institutions which might be useful in other institutions. There is also limited data on time utilization of faculty across the post-secondary system with which to draw conclusions about possible workload changes.

Strategy

This lack of a substantial shared database is unfortunate in an area which accounts for such a large portion of the post-secondary budget. Consideration could be given by post-secondary institutions to:

Establishing a common database on time utilization of faculty and time management techniques designed to increase the efficiency of instructional personnel.

This could be done by establishing inter-institutional task groups within the various sectors (universities, colleges, technical institutes, vocational centres). The data base developed by the work of these task groups could be considered by an intersectoral group made up of representatives from the original task groups. Recommendations on the more effective use of human resources could then be developed by the inter-sectoral group for consideration by all institutions in the system.

V. CONCLUSION - APPROACHES TO PLANNING

In considering the various issues and strategies discussed in the preceding sections, a common theme is apparent concerning the orientation to planning which they suggest. Whether the issue concerns articulation with other sectors, such as industry and the secondary education system; distance education and other means of enhancing accessibility; or allocation of programs and resources within the post-secondary system, the need for a system-wide approach to strategic planning, involving institutions more extensively in joint planning and collaborative ventures, becomes increasingly obvious. Simply put, if post-secondary institutions are to meet the challenges posed by technological, economic, and social change, and to address system wide problems, they must plan and act in concert rather than in isolation. This will require significant changes to the way planning is currently undertaken in the post-secondary system.

A. THE CURRENT SYSTEM

Joint planning activity among post-secondary institutions has increased significantly in recent years. In addition to the development planning activities of individual institutions, sectoral groups such as the Universities Coordinating Council, the Council of Presidents of Colleges and Technical Institutes, and councils of board chairmen have become more active in addressing long-range planning issues, and in consulting with the Department on matters of concern which cross institutional lines.

Inter-institutional planning has recently progressed to the system-wide level as well, with the formation of a Steering Committee of University and College Presidents, and through the work of the ad hoc Advanced Education Provincial Planning Group. These groups have attempted to identify issues requiring attention by the post-secondary system as a whole, and to consider effective approaches to system-wide planning.

However, a number of shortcomings can still be identified which limit the effectiveness of current planning activities in addressing system-wide issues such as those discussed in this paper. These shortcomings include the following:

a) **Restricted Participation.** The main actors in the current planning process are post-secondary institutions and the Provincial Government. Other groups in society, such as business and industry, labour, voluntary organizations and the basic education system are not involved to a significant extent.

b) **Isolation.** Institutions and other agencies still tend to pursue their goals in relative isolation from the system as a whole, largely through one-on-one interactions with the Department and other reference groups.

c) **Narrow Focus.** Planning has until very recently focussed almost exclusively on the addition of new programs and services, using an incremental approach to financing. It is becoming clear that this focus must be broadened to include evaluation and consideration of alternatives to existing activities and structures.

d) **Limited Information.** Many participants in the current process have identified the need for a system-wide data base of comparable information upon which to base decision-making. Differing methods of counting students and delivering enrolment figures provide one example of the information problems facing the current planning process.

The initiative for which this paper has been prepared, a planning workshop involving board chairmen and presidents of all post-secondary institutions and officials of Advanced Education, may represent an important step in the evolution of planning mechanisms which can effectively address the changing economic and social conditions in which the post-secondary system operates. Bringing together the senior decision-makers of the entire post-secondary system provides an opportunity for broad-based consideration to be given to issues affecting the system by those with the authority and responsibility to effect change.

B. APPROACHES IN OTHER PROVINCES

The recent experience of two provinces in regard to planning for change in times of fiscal restraints is instructive when considering the types of planning alternatives which are available for Alberta. In this province, the opportunity exists to pursue a cooperative approach to system development which addresses changing conditions but is not driven primarily by the pressures of financial restraint.

In Ontario, the recently-released report of the Bovey Commission on the Future Development of the Universities of Ontario has received a considerable amount of attention. The report identifies many issues which are relevant to Alberta's post-secondary system, including: the need for adjustments in university programs and research priorities; the issue of aging faculty and the need for faculty renewal; the maintenance of appropriate balance between general and specialized studies; the importance of university research; and the need for increased private sector linkage with and support for universities. The Commission has attracted particular attention by recommending significant increases in tuition fees, greater emphasis on quality than on accessibility in a period of restraint, and a competitive approach to the development of distinct roles for individual universities, both in teaching and research. However, despite recommending increasing tuition fees and private sector support, the Commission also concluded that universities will require significant increases in public funding in the future. At a time when the economic situation makes such increases unlikely, this conclusion could limit the impact of the Commission's work as a realistic basis for post-secondary planning in Ontario.

Recent experience in British Columbia's post-secondary system is also worthy of consideration. The economy of British Columbia has been particularly hard hit by the recession and provincial revenues have declined correspondingly. The restraint measures undertaken by the provincial government have required post-secondary institutions to make

some difficult decisions in order to adapt. While their efforts have produced undeniable results, some of the benefits of cooperation and partnership among institutions and government may have been neglected in the process. Recent indications that British Columbia is placing greater emphasis on cooperative approaches are significant in this regard.

C. PLANNING PRINCIPLES

The Advanced Education Strategic Planning Workshop can be seen as having two main purposes:

1. to consider major issues facing the post-secondary system at present, and to obtain commitment to work jointly on strategies to address these issues in the short-term; and

2. to examine and take steps to implement mechanisms for ongoing strategic planning for post-secondary education, in order to ensure that the system can anticipate and address future challenges.

This paper has focussed primarily on the first activity, by examining strategic issues and alternatives requiring attention in the immediate future. It is equally important, however, that consideration of short-term strategies proceed in the context of a long-range approach to planning which recognizes that system planning will not be effective if it is conducted only at times when financial or other pressures make it imperative.

It is obvious that a new process of system-wide planning cannot be put fully into place as a result of one workshop, but must develop over time. While the details will be determined as the process evolves, the general principles upon which system planning should be constituted can be agreed upon as the basis for further work.

In its work on system planning, the Advanced Education Provincial Planning Group identified a number of basic characteristics of a planning process, which could be considered in this regard. These principles include the following:

a) The process should be **continuous**, in order to respond to constantly changing conditions.

b) The process should be **comprehensive**, both in participation and in focus. It should involve a wide range of stakeholder groups, in recognition that the education 'system' includes many components other than formal educational institutions. It must also address a comprehensive range of issues, and should include mechanisms for evaluation and adjustment of existing services and structures as well as incremental additions.

c) The process requires a more structured system of **communication** among the components of the system, with the Department of Advanced Education playing an orchestrating role. A dynamic balance between **autonomy** and an increased commitment to **cooperation** and **coordination** must be maintained if the process is to be effective.

d) An improved capacity for gathering and disseminating comparable information on the educational system, and on the broader environment, is required to provide the basis for informed decision-making.

The challenge now facing the post-secondary system is to develop a workable planning process, based on principles such as these, which can address matters of current concern as well as longer-term planning issues. The Advanced Education Strategic Planning Workshop has been organized as a forum in which this challenge can begin to be addressed.